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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

MAILED

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Technology Center 2600

Application Number: 09/650,173
Filing Date: August 29, 2000
Appellant(s): LEE, NICHOLAS J.

Mr. Ronald J. Schoenbaum
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed June 29, 2006, appealing from the Office action mailed February 23, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal: Appeal Brief in the current application, filed 9/10/2004; and Appeal Brief in the current application, filed 5/24/2004.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,377,927	LOGHMANI	4-2002
5,917,889	BROTMAN et al	6-1999

6,434,524 WEBER 8-2002

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Loghmani et al (6377927) in view of Brotman et al (5917889) in further view of Weber (6434524).

As per claims 1, 14, Loghmani et al (6377927) teaches prompting a user to enter a voice query for searching a domain of items (as use inputting a query to shop for books – col. 9 line 58 – col. 10 line 10), wherein the input is voice input (fig. 10, via telephone, and thru voice query – col. 10 line 10), and the results are presented back to the user, via voice (col. 10 lines 25-29). The voice recognition uses a voice optimized database to interpret the user's input (col. 4 lines 38-55; fig. 6).

Loghmani et al (6377927) does not explicitly teach prompting the user to submit a set of characters with respect to the original input, however, Brotman et al (5917889) teaches a processing environment wherein the system prompts a user for character input (col. 1 lines 40-55), narrowing down the domain based on the character input (Fig. 2, subblock 630); creating a dynamic grammar based upon the character input (Fig. 2,

subblock 630), and prompting the user to input the voice version of the character input (Fig. 2, subblocks 640-690). Therefore, it would have been obvious to one of ordinary skill in the art of speech recognition to add to the speech recognition process of Loghmani et al (6377927) a prompt for the user to specify characters and to verify the input because it would advantageously reduce the domain field of choices, as well as improving the accuracy process in using the dual character input and followup speech verification (Brotman et al (5917889), col. 1 lines 40-45, referring back to col. 1 lines 10-26).

To summarize, the combination of Loghmani et al (6377927) in view of Brotman et al (5917889) teaches a system performing a voice query to search a domain of items, returning a domain of results based on the voice query, prompting the user to enter characters, the system generating a further limited domain, the system prompting an utterance indicative of the characters, and the system inquiring if the generated string is the intended string.

The combination of Loghmani et al (6377927) in view of Brotman et al (5917889) does not explicitly teach updating the dynamic grammar to reflect valid utterances, however, Weber (6434524) teaches the updating of dynamic grammar based upon successful utterance matches (Weber (6434524), , col. 13 lines 13-23). Therefore, it would have been obvious to one of ordinary skill in the art of speech recognition technologies to modify the teachings of Loghmani et al (6377927) in view of Brotman et al (5917889) with updating the dynamic grammar for the user because it would

advantageously deal with the voice idiosyncrasies of individual users (Weber (6434524), col. 13 lines 23-24).

As per claim 2, using the combination of Loghmani et al (6377927) in view of Brotman et al (5917889) in further view of Weber (6434524), Brotman et al (5917889) teaches "prompting a user……query term" as N character submission (col. 4 lines 36-41)

As per claims 3-6, using the combination of Loghmani et al (6377927) in view of Brotman et al (5917889) in further view of Weber (6434524), Weber (6532444) teaches using subcategories labeled as "author" (Weber, col. 6 lines 56-63), as well as Loghmani et al (6377927) (col. 10, line 1)

As per claim 7, using the combination of Loghmani et al (6377927) in view of Brotman et al (5917889) in further view of Weber (6434524), Brotman et al (5917889) teaches user selected keypad entry (col. 4 lines 36-41)

As per claim 8, using the combination of Loghmani et al (6377927) in view of Brotman et al (5917889) in further view of Weber (6434524), Brotman et al (5917889) teaches "user uttering the characters and using the keypad entries of the……character" as using utterances to match (col. 4 lines 15-35).

As per claim 9, using the combination of Loghmani et al (6377927) in view of Brotman et al (5917889) in further view of Weber (6434524), Brotman et al (5917889) teaches dynamic grammar usage (col. 4 lines 47-52)

As per claim 10, using the combination of Loghmani et al (6377927) in view of Brotman et al (5917889) in further view of Weber (6434524), Brotman et al (5917889) teaches extracting text from a subset of items derived from a database (col. 5 lines 25-30)

As per claim 11, using the combination of Loghmani et al (6377927) in view of Brotman et al (5917889) in further view of Weber (6434524), Brotman et al (5917889) teaches storage of the subset (col. 5 lines 18-24)

As per claim 12, using the combination of Loghmani et al (6377927) in view of Brotman et al (5917889) in further view of Weber (6434524), Brotman et al (5917889) teaches a fixed number of input characters (col. 5 lines 25-30)

As per claim 13, using the combination of Loghmani et al (6377927) in view of Brotman et al (5917889) in further view of Weber (6434524), Brotman et al (5917889) teaches determination of a threshold number of characters (col. 5 lines 25-30).

Claims 15-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Loghmani et al (6377927) in view of Brotman et al (5917889) in further view of Weber (6434524).

As per claims 15,16,24-26,33,35,36,40-43,48-51,54,55 Loghmani et al (6377927) teaches prompting a user to enter a voice query for searching a domain of items (as use inputting a query to shop for books –col. 9 line 58 – col. 10 line 10), wherein the input is voice input (fig. 10, via telephone, and thru voice query – col. 10 line 10), and the results are presented back to the user, via voice (col. 10 lines 25-29). The voice recognition uses a voice optimized database to interpret the user's input (col. 4 lines 38-55; fig. 6).

Loghmani et al (6377927) does not explicitly teach prompting the user to submit a set of characters with respect to the original input, however, Brotman et al (5917889) teaches a processing environment wherein the system prompts a user for character input (col. 1 lines 40-55), narrowing down the domain based on the character input (Fig. 2, subblock 630); creating a dynamic grammar based upon the character input (Fig. 2, subblock 630), and prompting the user to input the voice version of the character input (Fig. 2, subblocks 640-690). Therefore, it would have been obvious to one of ordinary skill in the art of speech recognition to add to the speech recognition process of Loghmani et al (6377927) a prompt for the user to specify characters and to verify the input because it would advantageously reduce the domain field of choices, as well as improving the accuracy process in using the dual character input and followup speech

verification (Brotman et al (5917889), col. 1 lines 40-45, referring back to col. 1 lines 10-26).

To summarize, the combination of Loghmani et al (6377927) in view of Brotman et al (5917889) teaches a system performing a voice query to search a domain of items, returning a domain of results based on the voice query, prompting the user to enter characters, the system generating a further limited domain, the system prompting an utterance indicative of the characters, and the system inquiring if the generated string is the intended string.

The combination of Loghmani et al (6377927) in view of Brotman et al (5917889) does not explicitly teach updating the dynamic grammar to reflect valid utterances, however, Weber (6434524) teaches the updating of dynamic grammar based upon successful utterance matches (Weber (6434524), , col. 13 lines 13-23). Therefore, it would have been obvious to one of ordinary skill in the art of speech recognition technologies to modify the teachings of Loghmani et al (6377927) in view of Brotman et al (5917889) with updating the dynamic grammar for the user because it would advantageously deal with the voice idiosyncrasies of individual users (Weber (6434524), col. 13 lines 23-24).

As per claims 17-19,20,27, using the combination of Loghmani et al (6377927) in view of Brotman et al (5917889) in further view of Weber (6434524), Weber (6532444) teaches using subcategories labeled as "author" (Weber, col. 6 lines 56-63), as well as Loghmani et al (6377927) (col. 10, line 1).

As per claims 20,29,44,45, using the combination of Loghmani et al (6377927) in view of Brotman et al (5917889) in further view of Weber (6434524), Brotman et al (5917889) teaches "prompting a user……query term" as N character submission (col. 4 lines 36-41)

As per claims 21,22, and 32,46, using the combination of Loghmani et al (6377927) in view of Brotman et al (5917889) in further view of Weber (6434524), Brotman et al (5917889) teaches user selected keypad entry (col. 4 lines 36-41)

As per claims 23,37, using the combination of Loghmani et al (6377927) in view of Brotman et al (5917889) in further view of Weber (6434524), Brotman et al (5917889) teaches determination of a threshold number of characters (col. 5 lines 25-30).

As per claims 28,38, using the combination of Loghmani et al (6377927) in view of Brotman et al (5917889) in further view of Weber (6434524), Brotman et al (5917889) teaches storage of the subset (col. 5 lines 18-24)

As per claim 30, using the combination of Loghmani et al (6377927) in view of Brotman et al (5917889) in further view of Weber (6434524), Weber (6532444) teaches using subcategories labeled as "author" (Weber, col. 6 lines 56-63), as well as Loghmani et al (6377927) (col. 10, line 1).

As per claim 31, using the combination of Loghmani et al (6377927) in view of Brotman et al (5917889) in further view of Weber (6434524), Brotman et al (5917889) teaches a fixed number of input characters (col. 5 lines 25-30)

As per claim 33, the combination of Loghmani et al (6377927) in view of Brotman et al (5917889) in further view of Weber (6434524) teaches the first query as the voice query, and then a second query as the character input/voice verification input, as discussed above.

As per claims 34,47, using the combination of Loghmani et al (6377927) in view of Brotman et al (5917889) in further view of Weber (6434524), Brotman et al (5917889) teaches dynamic grammar usage (col. 4 lines 47-52)

As per claims 39,51,54, using the combination of Loghmani et al (6377927) in view of Brotman et al (5917889) in further view of Weber (6434524), Brotman et al (5917889) teaches extracting text from a subset of items derived from a database (col. 5 lines 25-30)

As per claims 46,52, using the combination of Loghmani et al (6377927) in view of Brotman et al (5917889) in further view of Weber (6434524), Brotman et al (5917889) teaches "user uttering the characters and using the keypad entries of the……character" as using utterances to match (col. 4 lines 15-35).

(10) Response to Argument

Before addressing the appellants arguments with respect to the specific claim rejections, examiner will address appellants synopsis of the prior art found on pages 8 to 10 of the appeal brief.

Rebuttal to appellants synopsis of the prior art:

As to the comment that in Loghmani, "the spoken search query is processed without using a voice recognition grammar to initially convert the search query to text", examiner disagrees and notes in Loghmani teaching conversion of input speech queries into text (abstract), as well as using a voice recognition database to recognize input voice to generate text (col. 6 lines 20-30).

As to the comment that the Brotman reference "is not directed to the capture of search queries", examiner is not clear as to the relationship between "capture of search queries" and the current claim scope of the independent claims. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., capture of search queries) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). As to the comment that "Brotman's method were used to capture search queries, it would not provide an efficient process for doing so", examiner notes that the introduction of the Brotman reference is to

include character recognition via telephone keypad, and that it is the combination of the Loghmani reference with the Brotman reference that improves the accuracy of the recognition process. Lastly, as a tradeoff, the combination of Loghmani in view of Brotman, would increase the accuracy of the recognition process, although requiring further user input.

As to the comment regarding the Weber reference, i.e., "In contrast to the methods disclosed in the present application, Weber's method of using context-specific voice recognition grammars is not well suited for searching large domains of items", examiner again notes that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Returning to the arguments presented by the Appellant against the prior art rejection, On pages 11-12 of the appeal brief, the appellant presents arguments against the rejection of claim 1, and argues that the Brotman reference does not limit the choice of characters (and generating a dynamic grammar based on the subset). Referring to Brotman, col. 4 lines 36-41, and block 630 of Fig. 2, the user is allowed to select keypad numbers to represent letters of the alphabet, which creates a sub-grammar corresponding to the digits entered. For instance, if the user depresses the keys "4", "7","2", a grammar would be created that defines the allowable characters as {G,H,I},{P,R,S}, and {A,B,C}. Examiner argues that the grammar created is not only a subset of the original domain of characters (the original domain is any combination of A-Z, whereas based upon the example of keys "4","7","2" above, generates a subgrammar of {G,H,I},

{P,R,S}, and {A,B,C}), but also, in Brotman, the user is not required to enter the whole character set (e.g., when the user specifies a certain number sequence, but makes an error, the user can pause – and hence not enter the full sequence – col. 4 lines 20-28), and furthermore, Brotman teaches subset processing as shown in col. 6 lines 15-67 → summarizing, based upon a user's input of "AD345M" (with corresponding telephone keys 2,3,4,5,6), a grammar is generated by processing the subset of "345" and the possible meanings of the telephone keypad numbers 2&6 (col. 6 line 53 to col. 7 line 17). In summary, Brotman teaches subset processing, as evidenced by the two examples shown above, at different stages of character/speech conversion. As per applicants arguments, starting on page 12 of the appeal brief, against the motivation to combine the Loghmani and Brotman references, examiner disagrees and argues that Loghmani is concerned with speech recognition accuracy for speech queries (Col. 1 liens 13-17), and is especially concerned with speech recognition accuracy in a commercial transaction based system (col. 10 lines 8-36). An artisan of ordinary skill would easily recognize that sub-par recognition performance would adversely effect return customers in the system as taught by Loghmani. As per the argument that "one skilled in the art would not be motivated to design a system that requires users to undergo such an unnecessary burdensome process", examiner disagrees and notes that motivation in the disclosure of Brotman directly dispels this allegation by the appellant, wherein Brotman explicitly uses both techniques to verify a user query (col. 1 lines 40-51). As per the argument that neither processes by Brotman and Loghmani "suffers from voice recognition accuracy problems or speech problems, examiner argues that if this statement was true, then Loghmani would not recommend substitution/modification to their system (col. 10 lines 8-17, col. 10 lines 49-51 – suggesting the use of three different types of voice databases –

one using AVV, one using non-voice enabled database, and a voice optimized databases – clearly, the intention of Loghmani is to use varying types of voice processes to ensure accuracy; and as such, Brotman being a voice processing technique that improves accuracy of recognition). Clearly, motivation for one of ordinary skill in the art to combine the Loghmani and Brotman references are found in both references. As per the arguments against the use of the Weber reference, examiner argues that the purpose of the Weber reference is to teach the updating of dynamic grammar based upon successful utterance matches (col. 13 lines 13-23), and that the motivation to combine Weber with the combination of Loghmani in view of Brotman is to create a modified system that could deal with the voice idiosyncrasies of individual users (Weber (6434524), col. 13 lines 23-24).

Continuing with arguments against claims 2,9,15,26,29,31,39, please see the rebuttal presented above with respect to "subset". Furthermore, Brotman et al (5917889) teaches "prompting a user.....query term" as N character submission (col. 4 lines 36-41), Brotman et al (5917889) teaches dynamic grammar usage (col. 4 lines 47-52), Brotman et al (5917889) teaches a fixed number of input characters (col. 5 lines 25-30).

As per the arguments against claims 13,23, examiner argues that Brotman teaches limited grammar size (as noted in the Office Action rejection); this is a concern of Brotman, as reaffirmed by the passage in col. 5 lines 15-18.

As per the arguments against independent claim 24, examiner argues that Brotman teaches partial queries, and the query based grammar, as presented in the Office Action, and the rebuttal presented above with respect to claim 1.

As per the arguments against claim 25, examiner notes that Loghmani teaches HTML and other markup languages (col. 1 lines 20-23); an artisan of ordinary skill would easily recognize that VoiceXML would be included in this category.

As per the argument against claim 27, examiner notes that an obviousness type rejection was made with proper motivation to combine the references, not an informal reliance upon the Weber reference.

As per the arguments against claim 33, examiner disagrees and argues that Brotman's method performs a two step process wherein on the first pass, the user enters the query via telephone pad (that represents characters), and on the second pass, the user further delimits the query by speaking/uttering the characters (Brotman, Fig. 2).

As per the arguments against claim 43(44-49), examiner argues that Brotman teaches the analysis of an utterance (col. 7 lines 12-16).

As per the arguments against claim 47, examiner argues that the passage of Brotman shows "previously entered", i.e., matching the claim scope "previously generated grammars" (col. 4 lines 45-51).

Claims 50-54, and associated arguments, are similar in scope and content to the previously presented claims, and are rejected under similar rationale.

Furthermore, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Appellant has failed to

provide a direct compare/contrast between current claim scope and the combination of references as presented in the office action rejections.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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Conferees:

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